Examples include cereal boxes, frozen food containers, tin soup cans, aluminum soft drink cans, plastic milk containers, and glass mayonnaise jars.

2. Briefly review and define the terms calorie, Calorie, and Btu and important conversions.
3. Divide students into small groups of 3-4. Distribute a copy of the Btu worksheet to each group and review the procedure for calculating the Btus used to produce a container ("Energy Used by Packaging Materials" section).
4. Instruct each group to use a balance or scale to determine the mass of at least one food container from each category (paper, glass, steel/tin, aluminum, and plastic) and complete Part 1 of the Btu worksheet for each package and it's food contents. Remind students to include units (lb, gm, etc. when recording masses).
5. Ask groups to share their results and answer the following questions:
   * What types of containers take the most energy to produce?
   * What types of containers take the least energy to produce?
   * What are some examples of products that are energy-efficient (Btus in food are equal to or greater than Btus in the container)?
   * What are some examples of products that are energy-inefficient (Btus in food are less than Btus in the container)?
   * How can energy be conserved when purchasing food? (Buy products in larger containers, buy products with less packaging, etc.)
6. Refer to Part 2 of the Btu worksheet. Have students calculate the Btus they could save by using recycled forms of their paper, glass, steel/tin, and aluminum containers. Tell students that many packages, including cereal boxes, many aluminum cans, and many glass bottles are already manufactured using recycled materials. Ask students to identify other environmental benefits of recycling packaging materials in addition to energy savings.

Evaluation

1. Ask students to explain the differences between the terms calorie, Calorie, and Btu.
2. Collect the Btu worksheets containing calculations and check for correctness.

More

1. Complete the activity THE DOLLARS AND SENSE OF SODA CONTAINERS.
2. Since aluminum is so light, students often wonder if making an aluminum can uses fewer Btus than making a tinned steel can. Have students locate a tinned steel can and an aluminum can of the same mass and determine which type of can takes the most Btus to produce.
3. Have students bring in different sized containers for identical products (e.g. large and small cereal boxes, large and small mayonnaise jars, large and small juice cans) and calculate the amount of energy saved by buying products in larger containers.

Action

Have students tell family members about energy-efficient packaging choices and the energy savings associated with recycled packaging materials.